

## CS 455 Paper Summary

**Assigned:** Fri, Oct 27, 2006

**Due:** Fri, Nov 10, 2006 *at the beginning of class*  
100 points (counts as a program grade)

**Paper:** Fall, K. and S. McCanne. You Don't Know Jack About Network Performance. *ACM Queue*, vol. 3, no. 4, (May 2005), pp. 54-59.

**Note:** In the 2<sup>nd</sup> complete paragraph in the left column on page 56, “w bits” should be “w bytes”.

Your assignment is to write a 2-page summary of the paper *in your own words*. It is *not acceptable* to reproduce sentences or paragraphs from the articles (even if you change a word or two in each sentence). As a part of your summary, you should address the issues brought up by questions given below. The answers to the questions should be integrated as a part of your overall summary and not listed just one-by-one. In fact, your summary should cover much more than just the topics/issues mentioned in the questions.

Your grade will be determined by how well you summarize the article in your own words, how well you address the questions, writing style, and grammar (including spelling). You may submit the assignment either through Blackboard or by handing in a hard-copy.

Your summary should be double-spaced, have 1-inch margins, and have a 12-point font size. Acceptable fonts are Arial, Helvetica, and Times New Roman.

### Questions:

1. What are some factors other than bandwidth that can affect network performance?
2. How does a TCP sender's window size affect transfer speed?
3. In what situations would the RTT not be twice the one-way delay?
4. How does a connection's RTT affect TCP throughput?
5. What is the bandwidth-delay product and why is it important for network performance?
6. How does the receiver's advertised window affect TCP network performance?
7. How does the window scale TCP option allow for larger receiver windows?
8. What affect would data loss due to corruption have on TCP performance in a wireless network?
9. Why is it important for a programmer to test network applications on a WAN as well as a LAN?